YIN LIN

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EDUCATION

University of Michigan, Ann Arbor — Ann Arbor, MI
Ph.D. student in Computer Science and Engineering — Sept. 2019 – present
Advisor: Prof. H. V. Jagadish
GPA: 4.0/4.0

Shanghai Jiao Tong University (SJTU) — Shanghai, China
B.S. in Computer Science — Sept. 2015 – June 2019
GPA: 3.76/4.0

RESEARCH INTEREST

Ethics issues in Data Science and Artificial Intelligence, including data representativeness, diversity, fairness, and validity.

PUBLICATIONS

Conferences

- *Identifying Insufficient Data Coverage in Databases with Multiple Relations*
  Yin Lin, Yifan Guan, Abolfazl Asudeh, H. V. Jagadish
  PVLDB - Proceedings of the VLDB Endowment, 13(11): 2229-2242, 2020.
- *R^2-Tree: An Efficient Indexing Scheme for Data Center Networks*
  Yin Lin, Xinyi Chen, Xiaofeng Gao, Bin Yao, Guihai Chen
  DEXA - International Conference on Database and Expert Systems Applications, 2018.

Workshops

- *On Structural vs. Proximity-based Temporal Node Embeddings*
  Puja Trivedi*, Alican Büyükçakır*, Yin Lin, Yinlong Qian, Di Jin and Danai Koutra
  MLG - International Workshop on Mining and Learning with Graphs, 2020.

RESEARCH EXPERIENCES

Identifying Insufficient Data Coverage in Databases with Multiple Relations — Sept. 2019 – July 2020
University of Michigan – Advisor: Prof. H. V. Jagadish, Collaborator: Prof. Abolfazl Asudeh

- *Goal: To provide an efficient approach for database coverage analysis on a set of attributes across multiple tables.*
- Designed an index scheme to avoid explicit table joins, achieve efficient memory usage, and support predicate combination for aggregate COUNT queries at a high level of parallelism.
- Proposed a priority-based search algorithm to traverse and prune the lattice space of all possible value combinations.
- Presented approximate query processing methods to further reduce the computation time.

Scalable R-Tree based Indexing for Server-Centric Cloud Storage Systems — Dec. 2016 – Feb. 2018
Shanghai Jiao Tong University – Advisor: Prof. Xiaofeng Gao

- *Goal: To propose a scalable R-Tree based indexing scheme for high dimensional data in data centers.*
- Utilized R-Tree to support point, range query and used Bloom filter to reduce the false positives.
- Formulated a general definition for server-centric data center topologies and employed the two-layer indexing framework to maintain a global index layer above the structured overlay.
- Validated the indexing scheme in up to 64 instances and three different data center topologies.

INTERNSHIPS

Huawei Technologies Co., Ltd.,
Research Intern in GaussDB Group **(Mentor: Bo Gao)** Apr. 2019 – July 2019

- Used machine learning to predict database statistics and data distribution in the storage system. Automatically reconstructed the indexes to speed up query processing.

University of Waterloo,
Research Intern in Software Architecture Group **(Advisor: Prof. Meiyappan Nagappan)** July 2018 – Oct. 2018

- Analyzed coding tools proposed in ICSE 2014-2018. Defined a criterion to classify the tools by their functions and developing scenarios, providing keyword search support for the tools in our tool repository.
- Conducted an A/B test and built a survey website to investigate the optimal mobile ads usage pattern. This test provides guidance for developers using Google Mobile Ads SDK.

TEACHING EXPERIENCES

CS499, Mathematical Foundations of Computer Science, SJTU Spring 2018
Teaching Assistant. *Instructor: Prof. Dominik Scheder*

STUDENT MENTORING

Yoko Nagafuchi, Senior, University of Michigan

HONORS & AWARDS

Rackham Dean's and Named PhD fellowship *Full first-year PhD fellowship from the University of Michigan* 2019-2020
Outstanding Undergraduates in Shanghai Jiao Tong University June 2019
Academic Scholarship *Awarded to top 10% undergraduates for academic performance at SJTU* 2016 – 2018
National Scholarship for Studying Abroad, China Scholarship Council *Awarded to 200 undergraduates in China* 2018
SCSK Scholarship *Awarded to 7 computer science undergraduates at SJTU for the academic performance* 2018
Yitu Scholarship *Awarded to 3 outstanding computer science undergraduates at SJTU for their research* 2017
Huawei Scholarship *Awarded to 7 computer science undergraduates at SJTU for the academic performance* 2017
Chun Tsung Scholar *Awarded to 50 undergraduates at SJTU, funded by Nobel Prize owner Tsung-Dao Lee* 2016